

IN THE CLAIMS:

1. (Currently Amended) A method of controlling a compressor ~~operable to compress for a~~ refrigerant at a variable operation frequency, said method comprising the steps of:

(a) ~~allowing starting~~ the compressor ~~to start operating~~;

(b) ~~allowing operating~~ the compressor ~~to operate~~ at a first frequency for a first period of time ~~just immediately~~ after said step (a);

(c) ~~allowing operating~~ the compressor ~~to operate~~ at a second frequency lower than the first frequency for a second period of time longer than the first period ~~just immediately~~ after said step (b); and

(d) ~~operating~~ the compressor ~~to operate~~ at an ordinary operation frequency after said step (c);

wherein the first period of time is not longer than two seconds.

2. (Currently Amended) The method of claim 1, further comprising the steps of:

(e) ~~allowing operating~~ the compressor ~~to operate~~ at a third frequency higher than the second frequency for a third period of time shorter than the second period ~~just immediately~~ after said step (c); and

(f) ~~allowing operating~~ the compressor ~~to operate~~ at a fourth frequency lower than the first frequency and the third frequency for a fourth period of time longer than the first period and the third period ~~just immediately~~ after said step (e).

3. (Original) The method of claim 2, wherein the first frequency is equal to the third frequency.
4. (Original) The method of claim 2, wherein the second frequency is equal to the fourth frequency.
5. (Original) The method of claim 2, wherein the first period is equal to the third period.
6. (Original) The method of claim 2, wherein the second period is equal to the fourth period.
7. (Original) The method of claim 2, wherein the fourth period is shorter than the second period.
8. (Original) The method of claim 2, wherein the third frequency is higher than the first frequency.
9. (Original) The method of claim 2, wherein the third period is not longer than two seconds.
10. (Original) The method of claim 2, wherein the third frequency is not lower than 40Hz.
11. (Original) The method of claim 2, wherein the fourth frequency is not higher than 35Hz.
12. Cancelled.

13. (Original) The method of claim 1, wherein the first frequency is not lower than 40Hz.

14. (Original) The method of claim 1, wherein the second frequency is not higher than 35Hz.

15. (Currently Amended) The method of claim 1,

wherein the compressor ~~is operable to contain~~ contains lubricant and the refrigerant, and

wherein the refrigerant is hydrocarbon refrigerant excluding chlorine and fluorine, and
the lubricant and the refrigerant are mutually soluble with each other.

16. (Currently Amended) A controller for controlling a compressor, including comprising:

a compressing element ~~operable to compress~~ for compressing refrigerant, and

a motor ~~element operable to drive~~ for driving the compressing element to operate at a
variable operation frequency,

said controller comprising:

a driving section for driving the motor ~~element~~; and

a controlling section for controlling the driving section, the controlling section ~~being~~
operable for:

(a) ~~to allow starting~~ the compressor ~~to start operating~~,

(b) ~~to allow operating~~ the compressor ~~to operate~~ at a first frequency for a first
period of time just immediately after said step (a) ~~to allowing the compressor to start~~
~~operating~~,

(c) ~~to allow operating~~ the compressor ~~to operate~~ at a second frequency lower than the first frequency for a second period of time longer than the first period ~~just immediately after said step (b) to allow the compressor to operate at the first frequency for the first period, and~~

(d) ~~to allow operating~~ the compressor ~~to operate~~ at an ordinary operation frequency after said ~~step (c) to allow the compressor to operate at the second frequency for the second period~~

wherein the first period of time is not longer than two seconds.

17. (Currently Amended) The controller of claim 16, wherein the controlling section ~~is operable to control the driving section, the controlling section being operable~~ is further for:

(e) ~~to allow operating~~ the compressor ~~to operate~~ at a third frequency higher than the second frequency for a third period of time shorter than the second period ~~just immediately after said (c) to allow the compressor to operate at the second frequency for the second period, and~~

(f) ~~to allow operating~~ the compressor ~~to operate~~ at a fourth frequency lower than the first frequency and the third frequency for a fourth period of time longer than the first period and the third period ~~just immediately after said step (e) to allow the compressor to operate at the third frequency for the third period.~~

18. (Original) The controller of claim 17, wherein the first frequency is equal to the third frequency.

19. (Original) The controller of claim 17, wherein the second frequency is equal to the fourth frequency.

20. (Original) The controller of claim 17, wherein the first period is equal to the third period.

21. (Original) The controller of claim 17, wherein the second period is equal to the fourth period.

22. (Original) The controller of claim 17, wherein the fourth period is shorter than the second period.

23. (Original) The controller of claim 17, wherein the third frequency is higher than the first frequency.

24. (Currently Amended) The controller of claim 16,

wherein the compressing element is ~~operable to contain~~ contains lubricant and the refrigerant, and

wherein the refrigerant is hydrocarbon refrigerant excluding chlorine and fluorine, and the lubricant and the refrigerant are mutually soluble with each other.

25. (Currently Amended) A compressor comprising:

an airtight container for accommodating refrigerant and lubricant;

a compressing element ~~operable to compress~~ for compressing the refrigerant, the compressing element being lubricated by the lubricant;

a motor element ~~operable to drive~~ for driving the compressing element to operate at a variable operation frequency;

a driving section for driving the motor element; and

a controlling section for controlling the driving section, the controlling section ~~being operable~~ for:

(a) ~~to allow starting~~ the compressing element ~~to start operating~~,

(b) ~~to allow operating~~ the compressing element ~~to operate~~ at a first frequency for a first period of time just ~~immediately~~ after step said (a) ~~to allow the compressing element to start operating~~,

(c) ~~to allow operating~~ the compressing element ~~to operate~~ at a second frequency lower than the first frequency for a second period of time longer than the first period just ~~immediately~~ after said step (b) ~~to allow the compressing element at the first frequency for the first period~~, and

(d) ~~to allow operating~~ the compressing element ~~to operate~~ at an ordinary operation after said step (c) ~~to allow the compressing element to operate at the second frequency for the second period~~,

wherein the first period is not longer than two seconds.

26. (Currently Amended) The compressor of claim 25, wherein the controlling section is ~~operable to control the driving section, the controlling section being operable~~ for:

(e) ~~to allow~~ operating the compressing element ~~to operate~~ at a third frequency higher than the second frequency for a third period of time shorter than the second period ~~just~~ immediately after said step (c) ~~to allow the compressing element to operate at the second frequency for the second period~~, and

(f) ~~to allow~~ operating the compressing element at a fourth frequency lower than the first frequency and the third frequency for a fourth period of time longer than the first period and the third period ~~just~~ immediately after said step (e) ~~to allow the compressing element to operate at the third frequency for the third period~~.

27. (Original) The compressor of claim 26, wherein the first frequency is equal to the third frequency.

28. (Original) The compressor of claim 26, wherein the second frequency is equal to the fourth frequency.

29. (Original) The compressor of claim 26, wherein the first period is equal to the third period.

30. (Original) The compressor of claim 26, wherein the second period is equal to the fourth period.

31. (Original) The compressor of claim 26, wherein the fourth period is shorter than the second period.

32. (Original) The compressor of claim 26, wherein the third frequency is higher than the first frequency.

33. (Original) The compressor of claim 25, further comprising a suction inlet for sucking the refrigerant, the suction inlet opening in the airtight container.

34. (Original) The compressor of claim 25, wherein the motor element includes
a rotor having a permanent magnet, and
a stator having a core including
a plurality of teeth, and
a wire wound on the plurality of teeth.

35. (Original) The compressor of claim 25, wherein the refrigerant is hydrocarbon refrigerant excluding chlorine and fluorine, and the lubricant and the refrigerant are mutually soluble with each other.

36. (Currently Amended) A refrigerating device comprising:
a compressor as defined in claim 25; and
a refrigerating ~~eyele~~system through which the refrigerant circulates, the refrigerating ~~eyele~~system being coupled to the compressor, the refrigerating ~~eyele~~system including a condenser , a decompressor, and an evaporator.

37. (Currently Amended) The refrigerating device of claim ~~37~~ 36, wherein a time when the compressor starts to operate is a first time after a defrosting operation.

38. (New) A method of controlling a refrigerant compressor, comprising:

starting-up the compressor,

running the compressor for at least one time period at a high frequency,

running the compressor for at least one time period at a low frequency,

running the compressor at a normal operating frequency,

wherein the compressor is run at a high frequency immediately after ~~starting-up~~, starting,

each high frequency period is immediately followed by a low frequency period,

each low frequency period, except for a last low frequency period, is immediately

followed by a high frequency period,

the compressor is run at the normal operating frequency immediately after the last low frequency period, and

each high frequency is higher than each low frequency.

39. (New) The method of claim 38, wherein there are a plurality of high frequency time periods and a plurality of low frequency time periods.

40. (New) The method of claim 39, wherein each successive low frequency time period has a shorter duration than each previous low frequency time period, and a longer duration than each high frequency time period.

41. (New) The method of claim 39, wherein a high frequency of each successive high frequency time period is higher than a high frequency of each previous high frequency time period.